Before the
Federal Communications Commission
Washington DC 20554

In the Matter of	
Amendment of Part 101 of the Commission's Rules to Increase Spectrum Use Through More Flexible Antenna Rules for the 10.7-11.7 GHz Band	RM-11043

REPLY COMMENTS OF FIBERTOWER, INC.

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Pursuant to Section 1.405(b) of the Commission's Rules, FiberTower, Inc. files these Reply Comments in support of its Petition for Rulemaking in the above-captioned proceeding.[1]

A. Introduction

FiberTower's Petition for Rulemaking asked the Commission to amend Sections 101.113 and 101.115 of the Rules so as to permit the use of two-foot Fixed Service (FS) Category A and Category B antennas in the 10.7-11.7 GHz (11 GHz) band as an optional alternative to the four-foot antennas presently required.

FiberTower explained that smaller antennas will reduce the costs of providing, installing, and maintaining equipment for an 11 GHz link; that they will allow the installation of links at locations not available to large antennas; and that lower costs and new deployment options will reduce end user costs for a broad range of services. FiberTower also noted that smaller, less expensive antennas will create new competition with fiber and other modes of broadband delivery, reducing costs for all users. Services that stand to benefit from small antennas include, among others, wireless local loop and T-1 transport, broadband Internet access for schools,

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[1] Petition for Rulemaking of FiberTower, Inc., RM-11043 (filed May 26, 2004; date-stamped July 14, 2004). *See* Consumer & Governmental Affairs Bureau, Reference Information Center, Petition for Rulemaking Filed, Report No. 2666 (released July 23, 2004).

businesses, and apartment buildings, and interconnection of industrial campuses for LANs and PBXs.

FiberTower further pointed out that a 2-foot antenna entails only 1/3 the cost and 1/4 the weight of a 4-foot antenna, enabling last-mile delivery of broadband service to locations that are otherwise impractical for broadband radio, and that two-foot antennas promise to raise fewer esthetic objections than larger ones.

B. Comments in Support

All but one of the filed comments support FiberTower's request:

- NextWeb, Inc., which uses Part 101 licensed microwave links for its redundant wireless backbones to interconnect base stations, to deliver aggregate traffic to Internet exchanges and transit providers, and to deliver 100 Mbps Ethernet service to high-bandwidth users, endorses the proposal because it has been greatly limited by the difficulty of installing 4 foot dishes at its locations.[2]

- Alcatel, a leading manufacturer of communication equipment, including microwave radio products, agrees that smaller antennas will increase utilization of the 11 GHz band by allowing links to be constructed on space- and weight-limited facilities.[3] Alcatel also submitted a technical study showing that 2-foot antennas are not significantly more interfering, and in most cases are less interfering, than 4-foot antennas.[4]

- The Fixed Wireless Communications Coalition, a coalition of companies, associations, and individuals interested in terrestrial fixed microwave communications, concurs in the above points, and notes also that lower costs and easier installation at 11 GHz will make it easier to accommodate users displaced by reallocations of spectrum to other uses.[5]

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[2] Comments of NextWeb, Inc. at 1.

[3] Comments of Alcatel at 1.

[4] Comments of Alcatel, attachment. Alcatel is filing an updated version of its study today. Specifically, Alcatel compares the off-axis gains of the proposed 2-foot Category A antenna to the off-axis gain of a 4-foot Category A antenna under the current rules.

[5] Comments of the Fixed Wireless Communications Coalition at 2.

- Comsearch, a company that specializes in spectrum management of terrestrial microwave, satellite, and mobile telecommunications systems, states that FiberTower's proposals merit further consideration in a rulemaking proceeding.[6]

C. Comment in Opposition

Only one filing, that of the Satellite Industry Association (SIA), opposes the proposal. SIA cites two grounds. It alleges, first, that FiberTower's proposed rules do not adequately protect Fixed Satellite Service (FSS) earth stations; and second, that increased use of the 11 GHz band may cause interference to earth stations.[7] SIA also raises several baseless technical and procedural issues.[8]

SIA is correct that FiberTower's original proposal did not give earth station applicants the same protection as it did to four-foot FS applicants. FiberTower repairs that discrepancy with a modification to its proposed rule language, set out below.

SIA's second argument, that two-foot antennas will increase interference into FSS earth stations, is incorrect on its face. Under the proposed rules, earth stations are affected identically by two-foot antennas and four-foot antennas. Just as SIA would have no basis to complain about increased use of the band by four-foot FS antennas, it can have no objection to two-foot antennas under these rules. Both existing and future earth stations are fully protected by industry-accepted interference criteria that are applied and enforced by the coordination houses. We propose no change to those criteria, and no change to the coordination rules that would operate

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[6] Comments of Comsearch at 2.

[7] Comments of SIA at 5-6, 7.

[8] Comments of SIA at 6-7, 7-8.

to the detriment of the FSS. And we propose no change to the rule requiring Category B users to upgrade to Category A, if doing so resolves an interference problem.[9]

In the end, SIA's objections rest on a speculative concern that more FS links could make earth station coordinations more difficult. Even if true, that is merely a fact of life in a shared FS/FSS band. It is emphatically not a ground for stopping FiberTower's petition. Coordination of FS links in other shared bands, especially 4 GHz, are routinely blocked by very large numbers of earth stations. SIA's concerns here are no different, except that the blockages of concern to SIA are wholly speculative, while blockages to the FS at 4 GHz are very real. In any event, we think SIA's fears are unlikely to materialize, in view of long-standing Commission constraints on 11 GHz FSS operations.[10] FiberTower counts fewer than 140 licensed 11 GHz earth stations nationwide. But even more widespread FSS use would not justify denying FiberTower's request.

An increase in 11 GHz FS deployments -- far from being objectionable, as SIA suggests -- would be very much in the public interest. The band is presently underused. (Of 40,785 licensed FS paths in the 4, 6, 11, 18, and 23 GHz bands, only 8.7% are at 11 GHz.) The addition of more links would reflect an increase in spectrum efficiency. It would also help to take pressure off other FS bands, including those where FS operations are hampered by large numbers of earth stations, and would facilitate relocation of FS licensees displaced by new satellite operations.

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[9] 47 C.F.R. Sec. 101.115(c).

[10] Comments of SIA at 3-5.

We can quickly dispose of SIA's remaining issues. There is no evidence for its allegation that smaller antenna are more difficult to point accurately.[11] These units are always professionally installed; and because improper pointing will impair performance, even for a small antenna, the installers have every incentive to get it right. SIA likewise offers no support for its suggestion that multiple FS links in an area may create aggregate interference.[12] If anything, the larger sidelobes of a two-foot antenna may limit nearby frequency re-use, thus minimizing aggregate interference.[13] And SIA' s questions about when a two-foot user must upgrade to a four-foot antenna raise issues no different from those relating to a Category B user's long-standing obligation to upgrade to Category A.

In short, nothing in SIA's opposition would justify a denial of FiberTower's petition.

D. Proposed Rule Language (Revised)

In response to SIA's concerns, FiberTower amends its proposed new paragraph (j) to Section 101.103 of the rules as follows:

> **(j)** ***Coordination of small antennas in the 10.7-11.7 GHz band.*** **(1) A licensee or prior applicant using an antenna smaller than 1.22 meters (4 feet) in diameter may object to a prior coordination notice (i) only if it has actual grounds to object because of predicted interference, and (ii) only to the extent it would have grounds to object if it were using a 1.22 meter antenna at the same site, polarization, frequency, bandwidth, and orientation.**
>
> **(2) A Fixed Service applicant attempting to frequency coordinate an antenna of 1.22 meters in diameter or larger, or an applicant for a Fixed Satellite Service earth station, that predicts ~~and predicting~~**

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[11] Comments of SIA at 7-8.

[12] Comments of SIA at 7.

[13] We expect aggregate interference to be evaluated by the frequency coordinators in the ordinary course.

received interference from a licensee or prior applicant using an antenna smaller than 1.22 meters in diameter, can require the licensee or prior applicant to reduce the predicted interference to levels no higher than would be predicted from an antenna of 1.22 meters in diameter.

CONCLUSION

All but one of the comments support FiberTower's proposal. Most agree that two-foot 11 GHz antennas will deliver lower cost, greater flexibility of installation, and more efficient use of the band with no detriment to other users. The single comment in opposition raises one valid issue, which FiberTower addresses with a change to its proposed rule language. The other assertions in that comment are unsupported and without merit.

The current record fully justifies the Commission's prompt issuance of a Notice of Proposed Rulemaking.

Respectfully submitted,

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September 7, 2004

CERTIFICATE OF SERVICE

I, Deborah N. Lunt, a secretary with the law firm of Fletcher, Heald & Hildreth, PLC, state that true copies of the foregoing Reply Comments of FiberTower, Inc., have been served by first class mail, postage prepaid, this 7th day of September, 2004, to the people listed on the attached Service List.

Deborah N. Lunt

*Denotes those served by hand delivery.

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